

ABSTRACT OF THE DISCLOSURE

It is an object of the present invention to control the crystal orientation of a ferroelectric thin film as dictated by the application of a ferroelectric thin film device. To accomplished the stated object, a bottom electrode containing at least iridium is formed over a surface preparation layer whose main component is zirconium oxide, and an ultra-thin titanium layer is laminated over the bottom electrode. An amorphous layer containing the elemental metal and elemental oxygen that constitute the ferroelectric is formed over the titanium layer, and a crystallized ferroelectric thin film is formed by heat treating this amorphous layer. If the thickness of the titanium layer is kept between 2 nm and 10 nm in the lamination thereof, the ferroelectric thin film will have a priority orientation of (100), and if it is kept between 10 nm and 20 nm, the ferroelectric thin film will have a priority orientation of (111).